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ABSTRACT

Franzoi and Shields (1984) described the development of a 35-item scale for measuring body esteem and discussed the factor structure, reliability, and validity of that scale. They reported finding three dimensions of body esteem for young men and women in the scale they developed, although the factors differed between the sexes and were more correlated for men. The purpose of this study was to investigate further the factor structure of the Body Esteem Scale and the degree of differentiation in body esteem implied by the correlations among those factors. Subjects were 110 female and 65 male undergraduate psychology students. Subjects completed a 5-point rating scale to describe their feelings about themselves for each of the 35 items on the Body Esteem Scale. Several items on the Body Esteem Scale appeared doubtful in this study. Body scent had small item-total correlations for both men and women, suggesting that it is not very strongly related to the body esteem concept, and small factor pattern and factor structure coefficients for both men and women, suggesting that it is also not very strongly related to any body esteem subscale. Ratings of the ears and nose also had small item-total correlations, factor pattern coefficients, and factor structure coefficients for men, suggesting similar conclusions about those items for men only. The factor structure for women in this study was similar to that reported by Franzoi and Shields, with ratings of the chin and face having relatively smaller factor loadings on the sexual attractiveness factor compared to the earlier study. The ratings for men differed in several respects from the earlier study, with ratings of health and muscular strength having larger factor loadings than earlier. Results suggested dimensions of body esteem are at least as differentiated for men as they are for women. (Six tables are attached.) (ABL)

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Dimensions of Body Esteem in Female and Male College Students

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Dimensions of Body Esteem in Female and Male College Students

Franzoi and Shields (1984) described the development of a 35-item scale for measuring body esteem and discussed the factor structure, reliability, and validity of that scale. Their measure is composed of 23 items from the Body-Cathexis Scale devised by Secord and Jourard (1953), plus 12 other items they selected from a group of items they added and evaluated.

Although Secord and Jourard apparently assumed that body cathexis is undimensional, others have assumed that it is multidimensional and have subjected their scale to factor analysis, with varying results for the number of factors obtained and the names given to those factors. For example, Mahoney and Finch (1976) reported five factors for women and six for men, while Tucker (1981) reported four factors for men.

Franzoi and Shields reported finding three dimensions of body esteem for young men and women in the scale they developed, although the factors differed between the sexes and were more correlated for men. The purpose of this study was to investigate further the factor structure of their Body Esteem Scale and the degree of differentiation in body esteem implied by the correlations among those factors.

Method

Subjects

The participants were 110 female and 65 male undergraduate psychology students at California State University, Sacramento, who volunteered for the study in partial fulfillment of a research participation requirement.

Materials

Students were instructed to use a 5-point rating scale to describe their feelings about themselves for each of the 35 items on the Body Esteem Scale (Franzoi & Shields, 1984). The rating scale was labelled as follows: 1 = have strong negative feelings; 2 = have moderate negative feelings; 3 = have no feeling one way or the other; 4 = have moderate positive feelings; and 5 = have strong positive feelings. The Body Esteem Scale was included among a group of questionnaires in a study measuring five other personal traits and stress-related health symptoms.

Results

The mean rating for all body esteem items was 3.41 for the female students and 3.72 for the male students. Results for the individual items are shown in Tables 1 and 2; the item means range from 2.54 to 4.02 for the women and from 3.05 to 4.34 for the men. Standard deviations were reasonably similar across the items, and corrected item-total correlations range from .31 to .73 for the women and from .18 to .75 for the men.

Extracting three principal components accounted for 48.8% of the item response variance among women and 47.4% of the item response variance among men. Although there were nine eigenvalues larger than 1.0 in each analysis, three components appeared to be a reasonable solution; it was consistent with the scree test, all subsequent components accounted for no more than 5.5% of the item response variance, and a fourth component would have been defined by only two items after rotation.

For women, the strongest factor was weight concern, defined by factor pattern coefficients (see Table 3) exceeding .60 for figure or physique, buttocks, weight, hips, body build, thighs, legs, appearance of stomach, and waist. The second factor was sexual attractiveness, defined by coefficients of .60 or larger for sex organs, chest or breasts, ears, cheeks/cheekbones, lips, and appearance of eyes. The third factor was physical condition, defined by coefficients exceeding .60 for physical stamina, agility, energy level, physical condition, health, and reflexes. The factor structure coefficients (see Table 4) suggested exactly the same items for the first and third factors; the second factor would include arms and exclude ears and appearance of eyes.

For men, the strongest factor was physical condition, defined by factor pattern coefficients (see Table 5) exceeding .60 for energy level, physical stamina, physical condition, appearance of stomach, health, waist, agility, and physical coordination. The second factor was sexual attractiveness, defined by coefficients exceeding .60 for sex drive, sex activities, legs, thighs, sex organs, and weight. The third factor was upper body appearance, defined by coefficients exceeding .60 for arms, chest or breasts, biceps, and width of shoulders. The factor structure coefficients (see Table 6) would also include figure or physique in the first factor; otherwise, the structure coefficients suggest the same items as the pattern coefficients for all three factors.

Oblique rotation (the direct oblimin method with delta = 0) was used in both of these analyses since correlations were expected among

the body esteem factors, and moderate correlations were found. For women, the factor correlations were between .41 and .46; for men, the factor correlations were between .27 and .36.

Discussion

It should be acknowledged that the sample size in this study is modest for women and rather small for men; thus, the stability of these results is unknown. It is also quite possible that the proportion of older students is somewhat larger in this sample than in the earlier study. However, examination of the data to assess its suitability for factor analysis and the adequacy of the factor solution (Norusis, 1985; Tabachnick & Fidell, 1983) did not reveal any serious problems.

Several items on the Body Esteem Scale appeared doubtful in this study. Body scent had small item-total correlations for both men and women, suggesting that it is not very strongly related to the body esteem concept, and small factor pattern and factor structure coefficients for both men and women, suggesting that it is also not very strongly related to any body esteem subscale. Ratings of the ears and nose also had small item-total correlations, factor pattern coefficients, and factor structure coefficients for men, suggesting similar conclusions about those items for men only.

The factor structure for women in this study was similar to that reported by Franzoi and Shields (1984). Ratings of the chin and face had relatively smaller factor loadings on the sexual attractiveness factor in this study compared to the earlier study; ratings of muscular strength and physical coordination in this study had smaller factor loadings on the physical condition factor, while ratings of health and

reflexes had larger factor loadings on the physical condition factor.

The factor structure for men differed in several respects from the earlier study. Ratings of health and muscular strength had larger factor loadings on the physical condition factor in this study. The second factor was more sexual and concentrated more on the lower body than the physical attractiveness factor reported by Franzoi and Shields; it also did not include ratings of cheeks/cheekbones or chin. The third factor in this study was labelled upper body appearance rather than upper body strength because it did not contain the muscular strength item; body build also a had smaller factor loading here than in the earlier study.

The relative strength of the factors for men and women in this study appears to differ from the earlier study, but this is difficult to assess since Franzoi and Shields may have described their factors in a different order than the results of their oblique rotation, and they did not specify whether their factor loadings were pattern coefficients or structure coefficients. However, they did report factor correlations between .51 and .65 for men and between .33 and .40 for women. Unlike those earlier results, the factor correlations in this study were noticeably smaller for men than for women, suggesting that the dimensions of body esteem are at least as differentiated for men as they are for women.

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Author Note

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Table 1

Descriptive Statistics for Female Students on Items in the Body Esteem Scale

Item	M	SD	Item-Total Correlation
appearance of eyes	4.02	.94	.45
lips	3.92	.85	.52
sex drive	3.91	.91	.40
sex activities	3.88	.82	.44
face	3.84	.91	.68
reflexes	3.84	.90	.50
sex organs	3.80	.84	.51
cheeks/cheekbones	3.78	.92	.48
physical coordination	3.72	1.03	.45
health	3.70	1.08	.61
agility	3.58	.96	.47
chest or breasts	3.55	.99	.46
muscular strength	3.54	1.00	.54
body scent	3.53	1.07	.28
energy level	3.51	1.08	.59
width of shoulders	3.51	.90	.56
physical stamina	3.47	1.12	.60
physical condition	3.44	1.19	.69
arms	3.39	.86	.67
ears	3.38	.81	.40
appetite	3.37	1.09	.31
biceps	3.31	.84	.57
nose	3.30	.96	.53
body build	3.24	1.16	.65
figure or physique	3.23	1.19	.72
feet	3.22	.99	.38
chin	3.21	.84	.62
body hair	3.12	.96	.38
legs	3.11	1.24	.73
waist	3.10	1.22	.57
buttocks	2.96	1.19	.56
hips	2.81	1.18	.73
weight	2.80	1.28	.58
appearance of stomach	2.69	1.15	.58
thighs	2.54	1.25	.70

Table 2

Descriptive Statistics for Male Students on Items in the Body Esteem Scale

Item	M	SD	Item-Total Correlation
health	4.34	.83	.59
physical coordination	4.26	.89	.58
sex drive	4.26	.89	.37
appearance of eyes	4.23	.77	.45
agility	4.18	.90	.56
reflexes	4.18	.86	.49
muscular strength	4.09	.96	.62
energy level	4.08	1.05	.60
physical condition	4.05	.96	.75
sex organs	3.89	.81	.58
physical stamina	3.88	1.07	.57
face	3.86	.86	.62
sex activities	3.78	1.12	.56
width of shoulders	3.77	.96	.45
figure or physique	3.75	1.00	.80
appetite	3.72	1.01	.49
lips	3.72	.76	.38
chest or breasts	3.69	1.01	.60
body build	3.66	1.04	.66
arms	3.65	.98	.59
biceps	3.65	.99	.53
body hair	3.65	.96	.49
thighs	3.65	1.05	.48
legs	3.58	1.07	.51
buttocks	3.57	1.02	.53
cheeks/cheekbones	3.55	.77	.48
chin	3.38	.80	.34
appearance of stomach	3.35	1.10	.49
waist	3.35	1.22	.60
hips	3.32	.83	.52
body scent	3.31	1.04	.18
weight	3.29	1.13	.62
feet	3.26	.85	.44
ears	3.23	.72	.27
nose	3.05	.91	.18

Table 3

Factor Pattern Coefficients for Female Students on the Body Esteem Scale

Item	Factor 1	Factor 2	Factor 3
figure or physique	.83	.08	-.01
buttocks	.81	-.14	.03
weight	.79	-.17	.10
hips	.79	.08	.03
body build	.78	.09	-.05
thighs	.72	.01	.16
legs	.67	.20	.06
appearance of stomach	.66	.00	.08
waist	.62	.12	-.02
nose	.36	.29	.06
appetite	.35	.07	.01
sex organs	.04	.78	-.12
chest or breasts	.03	.69	-.08
ears	-.05	.68	-.07
cheeks/cheekbones	-.04	.67	.04
lips	.07	.64	.01
appearance of eyes	.00	.60	.02
width of shoulders	.11	.54	.12
body hair	-.08	.54	.08
sex activities	.02	.53	.07
feet	.01	.52	.01
sex drive	.00	.50	.07
arms	.18	.49	.24
chin	.17	.47	.20
face	.38	.47	.03
body scent	.17	.21	-.02
physical stamina	.09	-.06	.80
agility	-.26	.16	.79
energy level	.16	-.12	.77
physical condition	.29	-.12	.76
health	.10	.01	.74
reflexes	.15	.17	.70
physical coordination	.07	.00	.57
muscular strength	.22	.08	.45
biceps	.12	.31	.36

Table 4

Factor Structure Coefficients for Female Students on the Body Esteem Scale

Item	Factor 1	Factor 2	Factor 3
figure or physique	.86	.43	.41
hips	.84	.48	.43
thighs	.80	.39	.50
body build	.80	.40	.34
legs	.78	.51	.45
weight	.77	.21	.40
buttocks	.77	.22	.35
appearance of stomach	.69	.31	.38
waist	.66	.38	.32
nose	.51	.46	.34
appetite	.37	.21	.18
sex organs	.32	.75	.22
cheeks/cheekbones	.27	.67	.29
lips	.35	.67	.30
chest or breasts	.28	.67	.21
arms	.50	.67	.52
face	.60	.64	.40
width of shoulders	.39	.64	.39
chin	.47	.63	.47
ears	.21	.63	.18
appearance of eyes	.27	.61	.27
sex activities	.28	.57	.30
body hair	.19	.54	.27
feet	.24	.53	.23
sex drive	.24	.53	.27
body scent	.26	.28	.15
physical condition	.59	.31	.85
physical stamina	.43	.31	.82
energy level	.46	.26	.79
health	.45	.35	.79
agility	.18	.38	.74
reflexes	.25	.39	.70
physical coordination	.33	.26	.60
muscular strength	.46	.36	.59
biceps	.42	.51	.54

Table 5

Factor Pattern Coefficients for Male Students on the Body Esteem Scale

Item	Factor 1	Factor 2	Factor 3
energy level	.85	.02	-.10
physical stamina	.82	.07	-.17
physical condition	.75	.15	.11
appearance of stomach	.73	-.04	-.03
health	.72	-.02	.12
waist	.71	.08	.01
agility	.65	.06	.05
physical coordination	.63	-.09	.29
reflexes	.56	.13	-.02
figure or physique	.51	.23	.38
muscular strength	.50	.06	.33
appetite	.41	.10	.20
sex drive	-.13	.73	-.05
sex activities	.16	.71	-.08
legs	-.04	.70	.08
thighs	.03	.67	-.01
sex organs	.08	.63	.12
weight	.17	.61	.09
appearance of eyes	-.14	.58	.27
buttocks	.20	.57	-.01
face	.20	.53	.18
hips	-.10	.50	.41
body hair	.32	.45	-.10
lips	.09	.35	.11
body scent	.13	.30	-.22
arms	.28	-.13	.78
chest or breasts	.21	.00	.73
biceps	.31	-.18	.71
width of shoulders	-.01	.11	.64
cheeks/cheekbones	-.10	.27	.59
chin	.08	-.08	.57
body build	.34	.11	.54
feet	.11	.18	.39
nose	-.11	.11	.30
ears	-.03	.17	.26

Table 6

Factor Structure Coefficients for Male Students on the Body Esteem Scale

Item	Factor 1	Factor 2	Factor 3
physical condition	.83	.45	.36
energy level	.83	.30	.13
physical stamina	.80	.31	.07
waist	.74	.34	.23
health	.74	.27	.30
appearance of stomach	.71	.21	.15
figure or physique	.70	.53	.59
agility	.69	.31	.24
physical coordination	.67	.22	.42
muscular strength	.61	.34	.49
reflexes	.60	.32	.17
appetite	.49	.30	.33
sex activities	.39	.74	.18
legs	.23	.71	.28
weight	.42	.70	.32
sex organs	.34	.70	.34
thighs	.27	.68	.20
sex drive	.11	.67	.13
face	.43	.65	.39
buttocks	.40	.64	.22
appearance of eyes	.14	.61	.41
hips	.19	.59	.54
body hair	.46	.54	.12
lips	.25	.41	.24
body scent	.18	.28	-.10
arms	.44	.20	.81
chest or breasts	.40	.30	.79
biceps	.43	.14	.73
width of shoulders	.20	.30	.67
body build	.52	.39	.67
cheeks/cheekbones	.15	.42	.64
chin	.20	.12	.56
feet	.28	.34	.47
ears	.10	.24	.31
nose	.01	.16	.30